UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,883	08/25/2003	Marcin Wielgosz	LHUD-03301-UUS	3562

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ART UNIT	PAPER NUMBER
2617	

NOTIFICATION DATE	DELIVERY MODE
01/24/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after t he mailing date of this communication, even if timely filed, may re duce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _14 November 2007_.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-7_ is/are pending in the application.

    4a) Of the above claim(s) _3 and 4_ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1,2 and 5-7_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating
        obviousness or nonobviousness.

3.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

4.   Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Wolff (United States Patent Application Publication No.: US 2004/0031056 A1) in view

of Budge (EP 0 973 290 A2), and further in view of Paik et al (United States Patent No.: 5,216,503).

Consider claim 1, Wolff discloses a device for multiplexing of data comprising a first multiplexer (Aggregation Processor 38) having first live signal inputs for signals transmitted live (video 31)and/or first bitrate inputs for which appropriate bitrate needs to be maintained (voice traffic 11) and data traffic inputs, a first output, and modules connected to the first live signal inputs, the first bitrate inputs and the first data traffic inputs for receiving packet request commands which request reading of packets at the first live signal inputs, the first bitrate inputs and the first data traffic inputs and sending the packets to the first output wherein the multiplexer merges packets from the first live signal inputs, the first bitrate inputs and the first data traffic inputs into a first single stream fed at the first output wherein packets from the first live signal inputs are sent to the first output immediately after appearance at the first live signal inputs and packets from the first bitrate inputs are sent when no packet is available at the first live signal inputs and packets from the first data traffic inputs are sent when no packet is available at the first bitrate inputs and the first live signal inputs, (figures 103 and paragraphs [0020] and [0025]-[0027]).

However Wolff does not specifically disclose that data traffic has priorities defined by a weight coefficient.

In the same field of endeavor Budge discloses data traffic having priorities defined by a weight coefficient (paragraph [0005]).

Therefore it would have been obvious to a person of ordinary skill in the art at the

time the invention was made to assign priorities to the data traffic defined by a weight

coefficient as disclosed by Budge in the system of Wolff with the purpose of improving

the utilization of bitrate capacity when transmitting data services in a data channel

alongside the video channels.

Nonetheless Wolff as modified by Budge does not explicitly disclose that the

inputs are buffered.

In the same field of endeavor Paik et al discloses a video multiplexer wherein the

inputs are buffered (column 6, lines 22-29)

Therefore it would have been obvious to a person of ordinary skill in the art at the

time the invention was made to have buffered inputs as disclosed by Paik et al in the

system of Wolff as modified by Budge in order to avoid the need for high speed memory

devices with multiple write access capabilities.

Consider claim 5, and as applied to claim 1 above, Wolff further discloses that

data appearing at the first bitrate inputs is read with a bitrate defined by a number larger

than 0 (is given a guaranteed-bit-rate service)(paragraph [0027

5.   Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolff

(United States Patent Application Publication No.: US 2004/0031056 A1) in view of

Budge (EP 0 973 290 A2) and of Paik et al (United States Patent No.: 5,216,503) and

further in view of Shankar et al (United States Patent Application Publication No.: US 2003/0174649 A1).

Consider claim 2 and as applied to claim 1 above Wolff ad modified by Budge and further modified by Paik et al does not explicitly disclose the claimed limitation.

In the same field of endeavor Shankar et al disclose a device for multiplexing wherein the weight coefficient is a number from 0 to n defining a rate at which data is read from each input of the first weight inputs and showing how many times more often will the data be read from a given first weight input, as compared with a first weight input of the lowest priority, equaling 1 (figures 8 and 9 and paragraph [0065]).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ a weighted round robin scheme as disclosed by Shankar et al in the system of Wolff ad modified by Budge and further modified by Paik et al in order to establish operating parameters that govern the service differentiation applied to multiple classes of service.

6.   Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolff (United States Patent Application Publication No.: US 2004/0031056 A1) in view of Budge (EP 0 973 290 A2) and of Paik et al (United States Patent No.: 5,216,503) and further in view of Budge et al (United States Patent Application Publication No.: US 6,219,359 B1).

Consider claim 6 and as applied to claim 1 above, Wolff as modified by Budge and further modified by Paik et al does not disclose a second multiplexer.

In the same field of endeavor Budge et al disclose a second multiplexer linked to the output of the first multiplexer. The second multiplexer being functionally equivalent to the first multiplexer, and with identical features as the ones claimed in claim1 (figure 3 and column 7, lines 14-16).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a second multiplexer as disclosed by Budge et al in the system of Wolff as modified by Budge and further modified by Paik et al in order to be able to respond to changes in video signals.

7.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Budge et al (United States Patent Application Publication No.: US 6,219,359 B1) in view of Arimilli (United States Patent No.: 6,275,502 B1).

Consider claim 7, Budge et al. disclose a method for multiplexing a combination of one or more different type of signals such as video, audio and/or data, in a system for dataflow management using multiplexers comprising checking if any bitrate inputs are connected to the multiplexer; checking if a sum of bitrates of the bitrate inputs is smaller than a bitrate of a multiplexer output; initiating a procedure of checking for packets using bitrate when the bitrate inputs are found available and the sum of the bitrates Of the bitrate inputs is smaller than the bitrate of the multiplexer output and sending found packets until all packets are sent and treating the bitrates of the bitrates inputs as weight coefficients when the sum of the bitrates of the bitrates inputs is greater than the bitrate of the output and treating the bitrates inputs as weight inputs; initiating a

procedure of searching for packets at the weight inputs when the weight inputs are found available and sending found packets until all packets are sent (Budge et al. disclose apportioning the bitrate of the multiplexer output among the multiplexer inputs in such a way as to meet the individual requirements of each input but ensuring that buffer overflow will not occur. Further Budge et al. disclose giving priority to a channel over another, essentially assigning the higher priority channel a higher data rate) (figure 3, column 3 line 38-column 4 line38, and column 7 lines 14-161).

Even though Budge et al. disclose the concept of associating a preference or priority to a particular channel over the others, Budge et al. do not specifically disclose checking and reading packets from the live signal inputs (high priority inputs) and checking if a packet is available and sending information about packet unavailability when no packets are available.

In the same field of endeavor Arimilli shows and discloses checking and reading packets from the live signal inputs (high priority inputs) and checking if a packet is available and sending information about packet unavailability when no packets are available (figure 14 and column 3 lines 5-26).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to check and read packets from the live signal inputs (high priority inputs) and to check if a packet is available and sending information about packet unavailability when no packets are available as disclosed by Arimilli in the transmitter of Budge et al. in order to maximize data throughput efficiency and quality while simultaneously reducing multiplexer processing overhead.

Response to Arguments

8.   The examiner clarifies that in the first office action on the merits claim 7 was

rejected under U.S.C. 103 (a) as being unpatentable over Budge et al in view of Arimilli.

9.   In response to Applicants' argument regarding the kinds of inputs disclosed in the

Budge et al reference, the examiner agrees with the Applicants in that Budge et al does

not explicitly disclose live inputs. However the examiner respectfully disagrees with the

Applicants' conclusion that Budge et al disclose only one kind of input. In the Remarks

the Applicants' state that "Budge et al disclose a device for multiplexing data having a

number of bitrate inputs (column 3, lines 39-42). The bitrate inputs may have weight

coefficients assigned so as to associate a preference to one input over the remaining

inputs (column 3, lines 54-57)." and then conclude "Therefore, Budge et al disclose only

one kind of input, namely a bitrate input with a weight coefficient". The examiner

respectfully disagrees because there are two kinds of inputs, namely bitrate inputs and

bitrate inputs with a weight coefficient.

10.   In response to Applicants' arguments against the references individually, one

cannot show nonobviousness by attacking references individually where the rejections

are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208

USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir.

1986). With regards to claim 7, the Arimilli reference cures the deficiencies of Budge et

al.

Conclusion

11.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

11.   Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed

to**:

> Commissioner for Patents
> P.O. Box 1450
> Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

> Customer Service Window
> Randolph Building
> 401 Dulany Street

Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to German Viana Di Prisco whose telephone number is (571) 270-1781. The examiner can normally be reached on Monday through Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on (571) 272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

German Viana Di Prisco
January 14, 2008

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